

Rorippa columbiae Suksdorf ex Howell
persistentsepal yellowcress
Brassicaceae (Mustard family)

Status: State Endangered, USFWS Species of Concern
Rank: G3S1S2

General Description: Low-growing perennial with stems that usually are 4-12 inches long. The stems generally grow flat on the ground but are sometimes erect and much-branched. The stems arise from underground stems and rhizomes and can at times form large clusters of stems. The leaves are divided almost to their center into several pairs of opposite leaflets, and sometimes have small teeth on the edge. Flowers are borne both on the ends of the stems and in the axis of leaves. The flowers are approximately 1/3 inch wide and have four bright yellow petals, which are about 1/10 inch long. The sepals are flat and are ovate to oblong and tend to persist through fruiting. The fruits are almost oblong and are 1/4 inch long and are usually somewhat curved into an arc.

Identification Tips: *Rorippa columbiae* can be distinguished from closely related species by its (1) fruits, which are densely covered with elongated trichomes and which have expanded stigmas, (2) sepals and styles, which are densely pubescent and (3) axillary racemes, which are longer than 2 inches when fully developed and which have ascending pedicels.

Phenology: The phenology of *R. columbiae* is closely tied to the water regime of its habitat, which fluctuates widely between and within years according to weather and river management patterns. Flowering can occur throughout the season. Along the Columbia River, the species has been reported in flower from April to October.

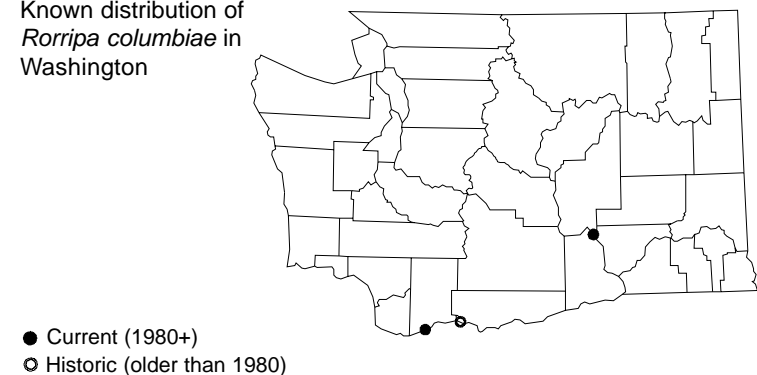
Range: Endemic to Washington, Oregon, and California, currently found in two disjunct regions: along the Columbia River in Washington and Oregon, and in south-central Oregon and northern California. In WA, *R. columbiae* is only known from two segments of the Columbia River: the arid Hanford Reach in the Columbia Basin east of the Cascade Mountains, and the cooler, wetter Lower Columbia Reach within the Columbia Gorge west of the Cascade Mountain Crest. Occurs in the Columbia Basin, Eastern Cascades, and Western Cascades physiographic provinces.

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Known distribution of
Rorippa columbiae in
Washington



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Habitat: *R. columbiae* has been observed near all types of bodies of water, including the Columbia River, intermittent snow-fed streams, permanent lakes, snow-fed lakes, internally-drained lakes which may be dry for extended periods of time, wet meadows, irrigation ditches and roadside ditches. The species apparently requires wet soil throughout the growing season. It is known from a wide variety of soil types, including clay, sand, gravel, sandy silt, cobblestones and rocks. Individuals are usually found in open habitats that have low vegetative cover. A common feature of all of the known sites is inundation for at least part of the year. *R. columbiae* typically occurs in the lowest vegetated riparian zone in a band spanning approximately 1-1.5 meters in elevation.

Ecology: The taxon appears to be adapted to periodic catastrophic flooding and unstable substrates typical of riparian areas. Prior to the construction of hydroelectric dams, the habitat was scoured most years by the spring floods. Seasonal scouring and occasional catastrophic floods probably helped to maintain the species' habitat by limiting siltation and decreasing competition.

State Status Comments: Much of the historic habitat along the Columbia River has been eliminated by inundation due to the construction of the dam/reservoir system. The species is currently known from two disjunct areas along the Columbia River that are separated by 4 dam/reservoir systems.

Inventory Needs: Additional inventory of potential habitat should be conducted.

Threats and Management Concerns: The cumulative effects of frequent, short-term inundation during the growing season may depress the vigor of the species over the long-term. In addition, current management of the Columbia River appears to affect the ability of the species to successfully produce seeds. The genetic diversity and long-term viability of the species may be affected. Also, woody vegetation may alter the community structure of the species' habitat.

References:

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- Sauer, Ronald H. and John E. Leder. 1985. The status of persistentsepal yellowcress in Washington. *Northwest Science* 59(3):198-203.
- Stuckey, R.J. 1972. Taxonomy and distribution of the genus *Rorippa* (Cruciferae) in North America. *SIDA* 4(4): 279-430.